

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

© EPODOC / EPO

PN - JP9267408 A 19971014
PD - 1997-10-14
PR - JP19960104565 19960402
OPD - 1996-04-02
TI - PRODUCTION OF FRP TUBE
IN - NISHIHARA MASAHIRO
PA - TORAY INDUSTRIES
IC - B29D23/00 ; A63B49/10 ; B29C70/16 ; F16L9/12 ; B29C43/10 ;
B29L23/00 ; B29L31/52

© WPI / DERWENT

TI - Producing fibre reinforced polymer pipe - involves preparing a tubular preform by covering a flexible tube with a reinforcing fibre

PR - JP19960104565 19960402

PN - JP9267408 A 19971014 DW199751 B29D23/00 007pp

PA - (TORA) TORAY IND INC

IC - A63B49/10 ; B29C43/10 ; B29C70/16 ; B29D23/00 ; B29L23/00 ; B29L31/52 ; F16L9/12

AB - J09267408 FRP pipe production involves preparing a tubular preform by covering a flexible tube with a reinforcing fibre. It is placed in the cavity of a mould and pressurised to press the tube to wall surface of the cavity. The relation between outer circumferential length (Cp) of the preform and inner circumferential length (Cc) of the cavity before pressurisation is such that $C_p > 0.6 C_c$. The reinforcing fibre is arranged at an angle of less than plus or minus 45 deg. to pipe axis direction, and $C_p > 0.8 C_c$. The reinforcing fibre is impregnated with a resin before the preform is placed in the cavity of mould. A preform (not) impregnated with a resin is placed in the cavity of mould and then a resin is poured into the cavity of mould. The preform is formed by using braid of the reinforcing fibre. The cross-sectional shape of the preform shows change in pipe axis direction. The FRP pipe is a racket frame. Preferred matrix resin is an epoxy resin.

- ADVANTAGE - High quality FRP pipe useful as racket frame is obtained.

- (Dwg.0/8)

OPD - 1996-04-02

AN - 1997-554010 [51]

© PAJ / JPO

- PN - JP9267408 A 19971014
PD - 1997-10-14
AP - JP19960104565 19960402
IN - NISHIHARA MASAHIRO
PA - TORAY IND INC
TI - PRODUCTION OF FRP TUBE
AB - PROBLEM TO BE SOLVED: To obtain an FRP tube of excellent quality by rationalizing the relation between the size of a preform and that of a cavity in an internal pressure molding method.
- SOLUTION: A tubular preform 4 obtained by covering a flexible tube 1 at least with reinforcing fibers is introduced into the cavity 6 of a mold and pressed to the wall surface of the cavity 6 by pressurizing the interior of the flexible tube 1 to mold an FRP tube. In this case, the relation between the outer periphery length (C_p) of the preform before pressurization and the inner periphery length (C_c) of the cavity is set to $C_p > 0.6C_c$.
SI - B29C43/10 ; B29L23/00 ; B29L31/52
I - B29D23/00 ; A63B49/10 ; B29C70/16 ; F16L9/12

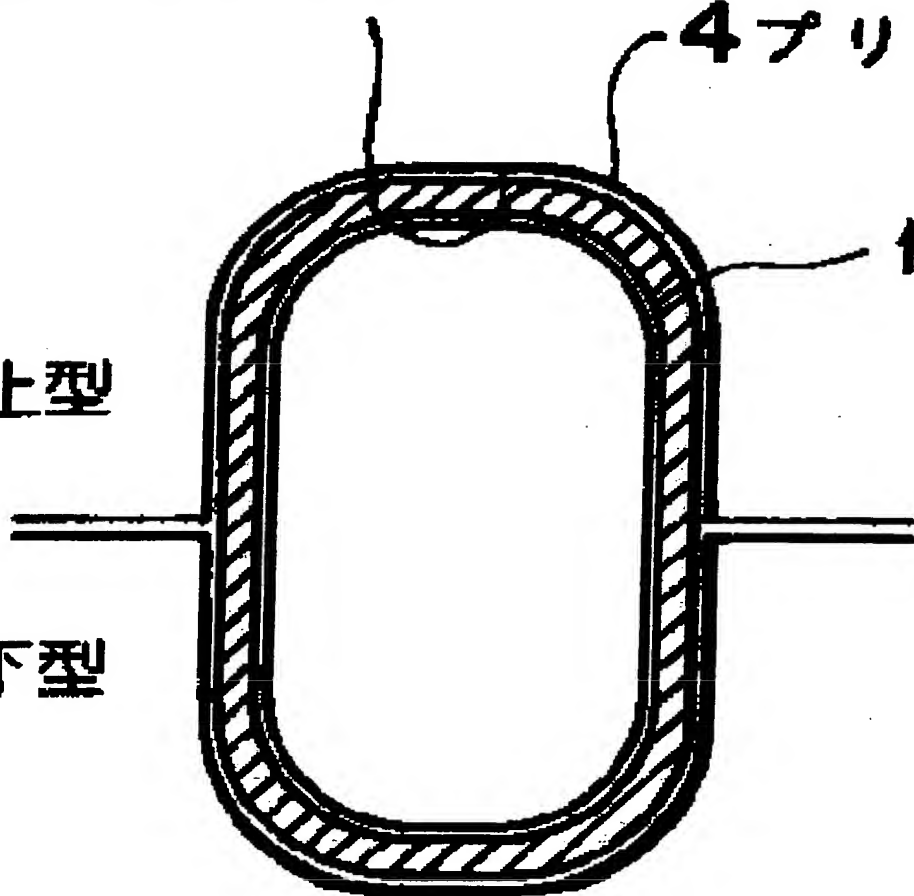
6キャビティ

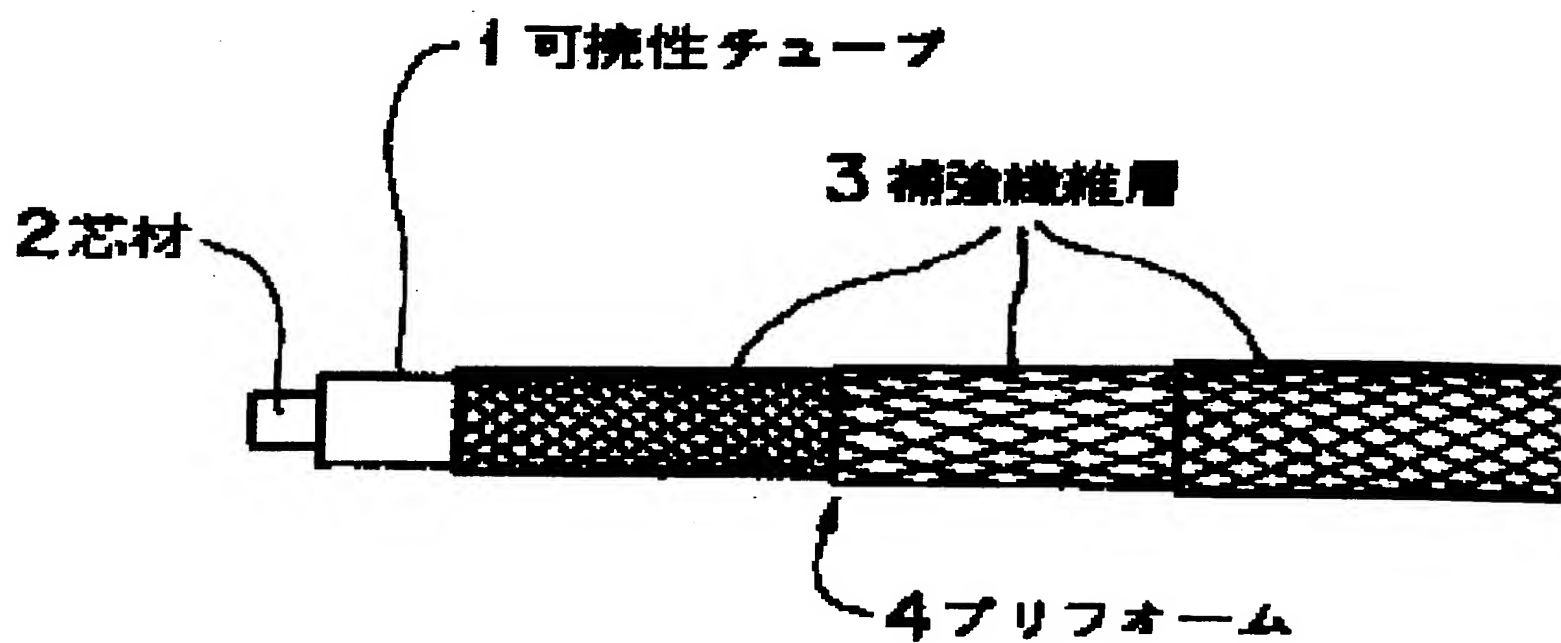
4プリフォーム

1可撓性チュー

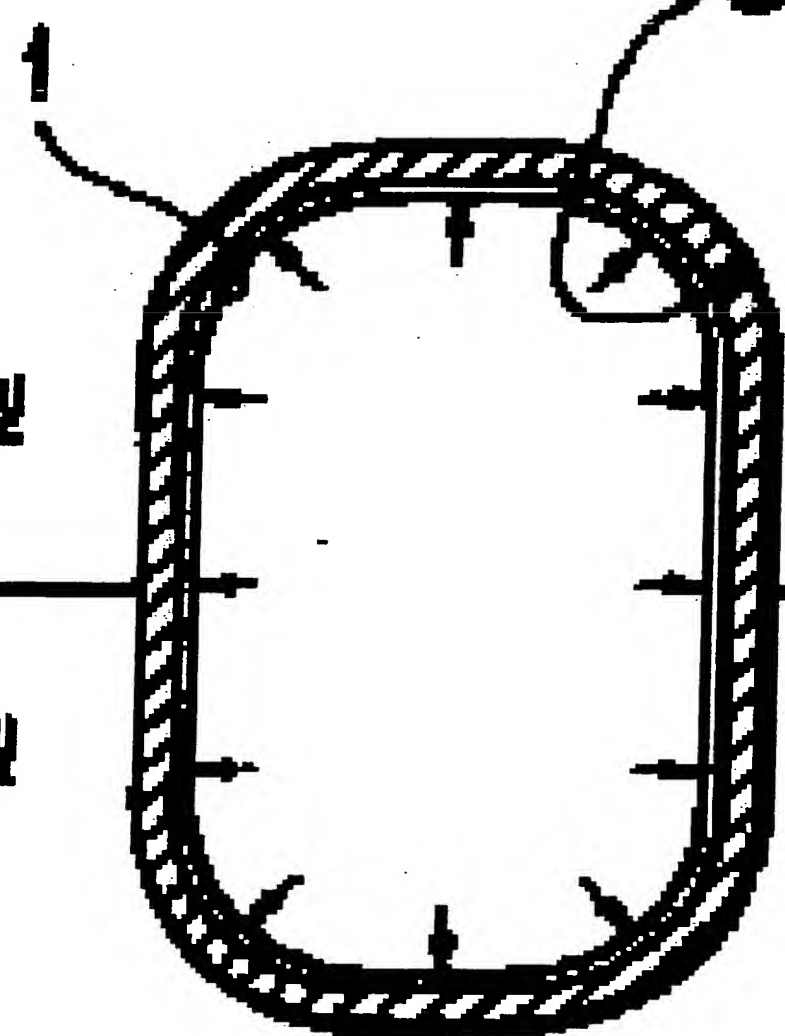
5a上型

5b下型





6キャピテ.



5a上型

5b下型